

***National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices***

For:

Belt-Conveyor Scale
Load Cell Electronic
Models: 10-14-3 and 10-14-4
Scale Capacity: See Table Below

Submitted by:

Thermo Ramsey
501 90th Avenue N.W.
Minneapolis, MN 55433
Tel: (763) 783-2500
Fax: (763) 780-2525
Contact: Bill Ripka

Standard Features and Options

Full floating unitized weighbridge
Low-flow lockout
Category 3 audit trail capability (Models 2201 and 2301 only)

Auto-calibration
Communications capabilities
AZSM with cold belt delay

Weighbridge Models and Parameters:

Model	Belt Loading (pounds)		Belt Speed (feet/minute)		Scale Capacity (tph)	Weighbridge Length (inch)	Number of Idlers
	Minimum	Maximum	Minimum	Maximum			
10-14-3	11	400	9	900	11 - 10 800	86 - 122	3
10-14-4	8	400	12.50	1250	11 - 10 800	122 - 186	4

System Components:

Components:

Master Weight Totalizer
Load Cell Digitizer
Weighbridge
Speed Sensor

Models:

Ramsey 10-151, 2201 and 2301
Ramsey 10-150 and 2301D
Ramsey 10-14
Ramsey 61-12 or 60-242

Load cells: Sontronics Model 60001A-XXX (Certificate of Conformance No. 86-043A1)

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.



Judith L. Cardin
Chairman, NCWM, Inc.



Don Onwiler
Chairman, National Type Evaluation Program Committee

Issued Date: September 17, 2007

Note: The National Conference on Weights and Measures does not "approve", "recommend", or "endorse" any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

**Thermo Ramsey
Belt-Conveyor Scale
Models: 10-14-3 and 10-14-4**

Application: Weighing of bulk materials.

Identification: The identification plate is riveted to the front of the master weight totalizer enclosure. The identification plate for the weighing element is riveted to the top of the weighbridge.

Sealing: Master Weight Totalizer: Model 10-151: The calibration adjustment is sealed with wire security seals through the calibration keyhole on the front of the master totalizer. The seal prevents the key from being inserted, thus preventing access to the calibration mode.

Models 2301 and 2201: The calibration adjustment is protected by an operator password. Set-up parameters are protected by a service password. The Category 3 event logger will record and retain in memory, up to 999 events that affect the configuration parameters and calibration constants of the scale system. The date, time, and old and new parameters are recorded. The audit trail records can be viewed individually via the front panel key pad and display by repeatedly pressing the "MENU" key until "MAIN MENU 6" appears on the screen. Then press the soft key under "AUDIT TRAIL" and use the Up/Down scroll keys to select the event. Events are displayed in order of date and time.

Test Conditions: This certificate supersedes Certificate of Conformance Number 92-032A2 and is issued to change the belt speed in the SFO Box on page one for the 10-14-4. Information was submitted by the NTEP CC holder. The NTEP Laboratory, Technical Advisor and the NTEP Director reviewed this information. Based on the information submitted, no additional testing was deemed necessary. Previous test conditions are listed below as reference.

Certificate of Conformance Number 92-032A2: This certificate supersedes Certificate of Conformance Number 92-032A1 and is issued to update contact information; add a cold belt delay feature for the auto zero tracking function; add the Model 60-242 Speed Sensor; and revise the parameter ranges for belt loading, belt speed, and capacity. Current and previous test conditions are stated below.

Field Test: The emphasis of the evaluation was on the system design and operation. A material test was conducted on the Model 10-14-4 belt-conveyor scale. The scale capacity was 300 tph maximum and 87.5 tph minimum. The scale was retested after a six-month period.

Laboratory Test: The emphasis of the evaluation was on system design and operation. The system consisted of the Model 2301 Integrator, the Model 2301D Load Cell Digitizer, and the Model 10-14-3 belt conveyor weighbridge. The scale capacity was 45 tph maximum and 15.75 tph minimum. The belt loading capacity was 30 pounds per foot maximum and 10.5 pounds per foot minimum. The length of the weighbridge was 98". Sensortronics Model 60001A-XXX (Certificate of Conformance No. 86-043A1) load cells were used. Static and dynamic tests were conducted at test loads ranging from 35% to 98% of static scale capacity and over a temperature range of -10 °C to 40 °C. Power voltage tests of 100 VAC to 130 VAC were conducted at 20 °C.

Certificate of Conformance Number 92-032A1: This certificate superseded Certificate of Conformance No. 92-032 and was issued to include the Model 2301D digitizer and the Models 2201 and 2301 Master Weight Totalizers.

Laboratory Test: The emphasis of the evaluation was on system design and operation. The system consisted of the Model Micro-2301 Integrator, the Model 2301D Load Cell Digitizer, and the Model 10-14-3 belt conveyor weighbridge. The scale capacity was 1000 tph maximum and 250 tph minimum. The belt loading capacity was 95.238 pounds per foot maximum and 23.81 pounds per foot minimum. The length of the weighbridge was 98". Sensortronics Model 60001A-XXX (Certificate of Conformance No. 86-043A1) load cells were used. Static and dynamic tests were conducted at test loads ranging from 35% to 98% of static scale capacity and over a temperature range of -10 °C to 40 °C. Power voltage tests of 100 VAC to 130 VAC were conducted at 20 °C.

**Thermo Ramsey
Belt-Conveyor Scale
Models: 10-14-3 and 10-14-4**

Certificate of Conformance Number 92-032:

Field Test: The emphasis of the evaluation was on the system design and operation. A material test was conducted on the Model 10-14-4 belt-conveyor scale. The scale capacity was 1200 tph maximum and 420 tph minimum. The scale was retested after a six-month period.

Laboratory Test: The emphasis of the evaluation was on system design and operation. The system consisted of a Model 10-151 Micro-Master Integrator, Model 10-150 Load Cell Digitizer, and a Model 10-14-3 belt conveyor weighbridge. The scale capacity was 1500 tph maximum and 630 tph minimum. The belt loading capacity was 95.25 pounds per foot maximum and 40 pounds per foot minimum. The length of the weighbridge was 98". Reverse Model BSP-A3.50A load cells were used (Certificate of Conformance No. 88-089A2). Static and dynamic tests were conducted at test loads ranging from 35% to 98% of static scale capacity and over a temperature range of -10 °C to 40 °C. Power voltage tests of 100 VAC to 130 VAC were conducted at 20 °C.

Evaluated By: Field Tests: H. Opperman (NIST), R Helmick, C. Keith, S. Seely, R. Sellers, (AZ), Sally Baron (CA) Laboratory Test: C. V. Cotsoradis (MD) G. Castro (CA) 92-032; G. Castro (CA) 92-032A1; G. Castro, K. Jones (CA) 92-032A2

Type Evaluation Criteria Used: NIST Handbook 44, 2004 Edition, NCWM Publication 14, 2004 Edition

Conclusion: The results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 92-032A2, 92-032A3

Example of 10-14-4:


